GLOSSARY

Absorbed dose: The energy imparted by ionizing radiation per unit mass of irradiated material at the place of interest in that material. Expressed in units of radiation absorbed dose or grays, where 1 radiation absorbed dose equals 0.01 gray.

Accelerator: An apparatus for imparting high velocities to charged particles.

Accident: An unexpected or undesirable event that leads to the release of hazardous material within a facility or into the environment exposing workers or the public to hazardous materials or radiation.

Accumulator ring: A circular band that, when injected with particles, strips the electrons from the H^- ions leaving protons. When a sufficient amount of proton bunches are accumulated in the ring they are then released from the ring as a pulse.

Air pollutant: Any substance in the air that could, if in high enough concentration, harm humans, other animals, or vegetation.

Air quality standards: The level of pollutants in the air prescribed by regulations that may not be exceeded during a specified time in a defined area.

Alloy: A substance made from a mixture of a metal and one or more other metals or nonmetallic elements.

Alluvium: Clay, silt, sand, and/or gravel deposits found in a stream channel or in low parts of a stream valley that is subject to flooding.

Alpha particle: A positively charged particle, consisting of two protons and two neutrons, given off by the radioactive decay of many elements, including uranium, plutonium, and radon.

Ambient air: That portion of the atmosphere, external to buildings, to which the general public is exposed.

Ambient water quality standards: The level of pollutants in water, prescribed by regulations, that may not be exceeded during a specified time in a defined area.

Antiscaling agent: A chemical added to cooling water to prevent buildup on interior surfaces of cooling water systems.

Aqueous: Containing or dissolved in water.

Aquifer: Rock or sediment in a formation, group of formations, or part of a formation that is saturated and sufficiently permeable to conduct groundwater.

Aquitard: A less-permeable geologic unit in a stratigraphic sequence. The unit is not permeable enough to transmit significant quantities of water. Aquitards separate aquifers.

Archaeological site: Any location where humans have altered the terrain or discarded artifacts during either prehistoric or historic times.

Area of concern: Any site that has been identified as needing corrective action but for which there are no Resource and Conservation and Recovery Act or Comprehensive Environmental Response, Compensation, and Liability Act remediation requirements.

Arroyos: A watercourse (as a creek) in an arid region.

Artifact: An object produced or shaped by human workmanship of archaeological or historical interest.

As low as reasonably achievable (ALARA): The approach to manage and control exposures (both individual and collective) to the workforce and to the general public to as low as is reasonable, taking into account social, technical, economic, practical, and public policy considerations. ALARA is not a dose limit but a process that has the objective of attaining doses as far below the applicable limits as is reasonably achievable (10 CFR 835.2).

Beam scattering: Beams of molecules are directed toward a surface and various properties are studied as a result of the beam/surface interaction. The scattered beam, desorbed reaction products, or adsorbed species can be detected.

Benthic: Occurring at the bottom of a body of water.

Beryllium: An extremely lightweight, strong metal used in weapons systems.

Beta particle: A negatively charged particle emitted during the radioactive decay of many radionuclides. A beta particle is identical to an electron. It has a short range in air and a small ability to penetrate other materials.

Biocides: A substance that is destructive to many different organisms.

Biodiversity: Biological diversity in an environment as indicated by numbers of different species of plants and animals.

Biodiveristy significance ranking (BSR): A system that ranks the importance of biological variety within an environment; ranks are from a high of 1 for outstanding significance to a low of 5 for general biodiversity interest.

Biota: Living organisms including plants and animals.

Brownfield: Previously developed land or contaminated land that has been remediated to accommodate certain uses.

Caldera: A volcanic crater that has a diameter many times that of the vent and is formed by collapse of the central part of a volcano or by explosions of extraordinary violence.

Cesium: A silver-white alkali metal. A radioisotope of cesium, cesium-137, is a common fission product.

Chert: A rock resembling flint and consisting essentially of a large amount of fibrous chalcedony with smaller amounts of cryptocrystalline quartz and amorphous silica.

Climatology: The science that deals with climates and investigates their phenomena and causes.

Code of Federal Regulations (CFR): A U.S. government publication containing the full range of federal regulations in codified form.

Cold neutrons: Neutrons with wavelengths >0.4 nanometers.

Cold War period: The historic period from 1949 to 1989, characterized by international tensions and nuclear armament buildup, especially between the United States and the U.S.S.R. The era began approximately at the end of World War II when the Atomic Energy Act was passed, establishing the Atomic Energy Commission, and ended with the dissolution of the U.S.S.R. into separate republics and the ending of large-scale nuclear weapons production in the United States.

Committed effective dose equivalent: The sum of the products of the committed dose equivalent to an organ or tissue and the weighting factor applicable to each organ or tissue irradiated. The committed dose equivalent is the dose equivalent that will be received from an intake of radioactive material during the 50-year period following the intake.

Common Ground Process: This process is the response of the Oak Ridge Reservation to the 1993 mandate by the Assistant Secretary of Environmental Restoration and Waste Management and the Acting Associate Deputy Secretary for Facilities and Management (both within the Department of Energy) to identify stakeholder preferred alternatives for the future use of land and buildings at Department of Energy sites.

Community (biotic): All plants and animals occupying a specific area under relatively similar conditions.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): Provides a federal "Superfund" to clean up uncontrolled or abandoned hazardous waste sites, as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment. Through the Act, the Environmental Protection Agency was given power to seek out those parties responsible for any release and assure their cooperation in the cleanup.

Contamination: The deposition or discharge of chemicals, radionuclides, or particulate matter above a given threshold, usually associated with an effects level onto or into environmental media, structures, areas, objects, personnel, or nonhuman organisms.

Cretaceous Age: Geologic time making up the end of the Mesozoic Era, dating from approximately 144 million to 66 million years ago.

Criteria pollutant: Six air pollutants [sulfur dioxide, nitric oxides, carbon monoxide, ozone, particulate matter-10 (smaller than 10 microns in diameter), and lead] for which National Ambient Air Quality Standards are established by the U.S. Environmental Protection Agency.

Cultural resource: Any prehistoric or historic site, building, structure, district, or other place or object (including biota of importance) considered to be important to a culture, subculture, or community for scientific, traditional, or religious purposes or for any other reason.

Cumulative impacts: In an Environmental Impact Statement, the impact on the environment that results from the incremental

impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal), private industry, or individual undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

Curie: The conventional unit of activity in a sample of radioactive material. The curie is equal to 37 billion disintegrations per second; which is approximately the rate of decay of 1 gram of radium; also a quantity of any nuclide or mixture of nuclides having 1 curie of radioactivity.

Decay (radioactive): The decrease in the amount of radioactive material with the passage of time due to the spontaneous transformation of an unstable nuclide into a different nuclide or into a different energy state of the same nuclide; the emission of nuclear radiation (alpha, beta, or gamma radiation) is part of the process.

Decontamination: The actions taken to reduce or remove substances that pose a substantial present or potential hazard to human health or the environment, such as radioactive or chemical contamination from facilities, equipment, or soils by washing, heating, chemical or electrochemical action, mechanical cleaning, or other techniques.

Deoxyribonucleic acid (DNA): Any of various nucleic acids that are usually the molecular basis of heredity, are localized especially in cell nuclei, and are constructed of a double helix held together by hydrogen bonds between purine and pyrimidine bases, that project inward from two chains containing alternate links of deoxyribose and phosphate.

Deposition: In geology, the laying down of potential rock-forming materials; sedimentation. In atmospheric transport, the settling out on ground and building surfaces of atmospheric aerosols and particles ("dry deposition") or their removal from the air to the ground by precipitation ("wet deposition").

Derived air concentrations: Airborne concentration of a radionuclide that, if inhaled for a work year, would result in a dose to an individual worker corresponding to the applicable dose limit.

Derived concentration guide (DCG): The concentration of a radionuclide in air or water that under conditions of continuous exposure for 1 year by one exposure mode (e.g., ingestion of water, submersion in air, or inhalation of air) would result in an effective dose equivalent equal to the annual dose limit for the group exposed. For the public, this would be a dose of 100 millirem to a reference human who inhales 8,400 cubic meters of air and ingests 730 liters (771 quarts) of water in a year.

Dispersion: The downwind spreading of a plume by turbulence and meander in wind direction, resulting in a plume of lower concentration over a larger area.

Disposal: The process of placing waste in a final repository.

Dose: A generic term that expresses the energy absorbed by a unit mass of material exposed to ionizing radiation (absorbed dose in units of rad or gray) or the product of a quality factor and the energy absorbed by human tissue exposed to ionizing radiation (dose equivalent, effective dose equivalent, committed dose equivalent, committed effective dose equivalent, or total

effective dose equivalent). In this Environmental Impact Statement, dose means effective dose equivalent, committed effective dose equivalent, or total effective dose equivalent as defined in this glossary.

Dose conversion factor: For internal exposures, the dose received per unit activity inhaled or ingested. For external exposures, the dose received per unit time exposed to a unit activity concentration.

Dose equivalent: The dose equivalent is the product of the absorbed dose and a quality factor that depends on the type of ionizing radiation.

Dose rate: The radiation dose delivered per unit time (e.g., rad/h).

Drainage basin: An aboveground area that supplies the water to a particular stream.

Drawdown: The subsurface difference in elevation between the natural water level in a formation and the reduced water level in the formation caused by the withdrawal of groundwater.

Drinking water standard: The prescribed level of constituents or characteristics in a drinking water supply that cannot be legally exceeded.

Ecology: The science dealing with the relationship of all living things with each other and with the environment.

Ecosystem: Living organisms and their nonliving (abiotic) environment functioning together as a community.

Effective dose equivalent (EDE): The sum of the products of the dose equivalent to an organ or tissue and the weighting factor applicable to each organ or tissue irradiated.

Effluent: Liquid or gaseous waste streams discharged into the environment.

Endangered species: Plants and animals that are threatened with extinction, serious depletion, or destruction of critical habitat. Requirements for declaring a species endangered are contained in the Endangered Species Act.

Environment: The sum of all external conditions and influences affecting the life, development, and ultimately the survival of an organism.

Environmental justice: The fair treatment of people of all races, cultures, incomes, and educational levels with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment implies that no population of people should be forced to shoulder a disproportionate share of the negative environmental impacts of pollution or environmental hazards due to a lack of political or economic strength.

Environmental Impact Statement (EIS): A document required of federal agencies by the National Environmental Policy Act for proposals for legislation or major federal actions significantly affecting the quality of the human environment. A tool for decision-making, it describes the positive and negative environmental impacts of the proposed action and alternative actions.

Environmental Restoration Integrated Water Quality Program: A program established in 1996 in an attempt to integrate the various biological, physical, and chemical monitoring activities that were being conducted across the Oak Ridge Reservation. The program uses data collected by other programs and additionally supplements these data with its own sampling. Monitoring data deemed most important to evaluating long-term trends and assessing off-site export are included in the program's scope.

Epicenter: The point on Earth's surface directly above the focus of an earthquake.

Erosion: A general term for the natural processes by which earth materials are loosened, dissolved, or worn away and moved from one place to another. Typical processes are wind and water as they carry away soil.

Fallout: Radioactive material that has been produced and distributed through the atmosphere as a result of above-ground testing of nuclear devices.

Fault: A fracture or a zone of fractures within a rock formation along which vertical, horizontal, or transverse slippage has occurred.

Floodplain: The lowlands adjoining inland and coastal waters and relatively flat areas including at a minimum that area inundated by a 1 percent or greater chance of flood in any given year.

Formation: In geology, the primary unit of formal stratigraphic mapping or description. Most formations possess certain distinctive features.

Fusion: Nuclear reaction in which light nuclei are fused together to form a heavier nucleus, accompanied by the release of immense amounts of energy and fast neutrons.

Gamma rays: High-energy, short-wavelength, electromagnetic radiation accompanying fission and emitted from the nucleus of an atom during radioactive decay. Gamma rays are very penetrating and can be effectively stopped only by dense materials (such as lead) or a thick layer of shielding materials.

Geology: The science that deals with Earth: the materials, processes, environments, and history of the planet, including the rocks and their formation and structure.

Geotechnical systems: The utilization of rocks or geological formations as a group of objects forming a network that serves a common purpose.

Greenfield: A site not previously developed or contaminated.

Groundwater: Water found beneath the Earth's surface.

Group: The geological term for the rock layer next in rank above formation.

Habitat: The part of the physical environment in which a plant or animal lives.

Half-life: The time in which half the atoms of a radioactive substance disintegrate to another nuclear form. Half-lives vary from millionths of a second to billions of years.

Hazardous material: A material, including a hazardous substance defined by 49 CFR 171.8, that poses a risk to health, safety, and property when transported or handled.

Hazardous waste: A solid waste that, because of its quantity, concentration, physical, chemical, or infectious characteristics, may significantly contribute to an increase in mortality: or may pose a potential hazard to human health or the environment when improperly treated, stored, or disposed. The Resource Conservation and Recovery Act defines a "solid waste" as including solid, liquid, semisolid, or contained gaseous material. By definition, hazardous waste has no radioactive components.

Heavy metals: Metallic or semimetallic elements of high molecular weight, such as mercury, chromium, cadmium, lead, and arsenic, that are toxic to plants and animals at known concentrations.

High efficiency particulate air (HEPA) filter: A disposable, extended media, dry-type filter with a rigid casing enclosing the full depth of the pleats. The filter exhibits a minimum efficiency of 99.97 percent when tested with an aerosol of essentially monodispersed 0.3-mm diameter test aerosol particles.

Historic resources: The sites, districts, structures, and objects considered limited and nonrenewable because of their association with historic events, persons, social, or historic movements.

Holocene: The current epoch of geologic time, which began approximately 10,000 years ago.

Human Genome Sequencing Project: The ultimate goal of the Human Genome (genetic material of an organism) Project is to determine the deoxyribonucleic acid (DNA) sequence of the entire human genome and to elucidate the genetic information by analyzing the structure and function of all the genes of humans and other organisms.

Hydric: Requiring an abundance of moisture.

Hydrology: The science dealing with the properties, distribution, and circulation of natural water systems.

In-situ decommissioning: To remove (as a ship or nuclear power plant) from service without completely dismantling.

Ion: An atom or molecule that has gained or lost one or more electrons to become electrically charged.

Ionizing radiation: Radiation with sufficient energy to displace electrons from atoms or molecules, thereby producing ions.

Isotope: An alternate form of an element that has the usual number of protons but a nonstandard number of neutrons; the fewer or additional neutrons give the isotope a different atomic weight than the regular element and may make the isotope radioactive.

Karst: An irregular limestone region with sinkholes, underground streams, and caverns.

Klystron: An electron tube used for the generation of ultra-high-frequency current.

Linac: Linear accelerator.

Linear accelerator (linac): A device in which charged particles are accelerated in a straight line by successive impulses from a series of electric fields.

Lithic: The description of rocks on the basis of such characteristics as color, mineralogic composition, and grain size.

Lithology: A rock formation having a particular set of characteristics.

Loam: A soil composed of a mixture of clay, silt, sand, and organic matter.

Low-income population: Community in which 25 percent or more of the population is characterized as living in poverty.

Low-level radioactive waste: All radioactive waste that is not classified as high-level waste, transuranic waste, spent nuclear fuel, or "11e(2) by-product material," as defined by DOE Order 5820.2A, *Radioactive Waste Management*. By-product material includes the tailings or waste produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content. Test specimens of fissionable material irradiated for research and development only, and not for the production of power or plutonium, may be classified as low-level waste, provided the concentration of transuranic waste is less than 100 nanocuries per gram.

Maximum contaminant level : The maximum permissible level of a contaminant in water that is delivered to any user of a public water system, as measured within the system or at entry points, depending upon the contaminant (40 CFR 141).

Migration: The movement of a material through the soil or groundwater.

Mitigation: The alleviation of adverse impacts on resources; by avoidance, by limiting the degree or magnitude of an action, by repair or restoration, by preservation and maintenance that reduces or eliminates the impact, or by replacing or providing substitute resources or environments.

Mixed waste: Mixed waste contains both hazardous waste [as defined by the Resource Conservation and Recovery Act (RCRA) and its amendments] and radioactive waste (as defined by the Atomic Energy Act and its amendments). It is jointly regulated by the Nuclear Regulatory Commission (NRC) or NRC's Agreement States and the Environmental Protection Agency (EPA) or EPA's RCRA-Authorized States.

Moderator: A substance (as water) used for slowing down neutrons in a nuclear reactor.

Modified Mercalli intensity: A level on the modified Mercalli scale. A measure of the perceived intensity of earthquake ground shaking with 12 divisions, from I (not felt by people) to XII (damage nearly total).

Moraine: An accumulation of earth and stones carried and finally deposited by a glacier.

National Ambient Air Quality Standards (NAAQS): Air quality standards established by the *Clean Air Act*, as amended. The primary NAAQS are intended to protect the public health with an adequate margin of safety, and the secondary NAAQS are intended to protect the public welfare from any known or anticipated adverse effects of a pollutant.

National Emission Standards for Hazardous Air Pollutants (NESHAP): A set of national emission standards for listed hazardous pollutants emitted from specific classes or categories of new and existing sources. These

standards were implemented in the Clean Air Act Amendments of 1977.

National Environmental Research Park (NERP): An outdoor laboratory set-aside for ecological research to study the environmental impacts of energy developments. NERPs were established by the Department of Energy to provide protected land areas for research and education in the environmental sciences and to demonstrate the environmental compatibility of energy technology development and use.

National Historic Preservation Act (NHPA): Congress passed the NHPA in 1966. The law established a national policy for the protection of historic and archaeological sites and outlined the responsibilities of federal and state governments in preserving our nation's history.

National Oceanic and Atmospheric Administration (NOAA): The organization within the Department of Commerce responsible for describing and predicting changes in Earth's environment and for conserving and managing the nation's coastal and marine resources.

National Pollutant Discharge Elimination System (NPDES) permit: The NPDES is a regulatory program (regulated through the Clean Water Act, as amended) of either the Environmental Protection Agency or state EPA-authorized agency that is designed to control all discharges of pollutants from point sources to U.S. waterways. NPDES permits regulate discharges into navigable waters from all point sources of pollution, including industries, municipal treatment plants, large agricultural feed lots, and return irrigation flows. Federal and State regulations (40 CFR Parts 122 and 125) require one of these permits for the discharge of pollutants from any point source into the waters of the United Stated regulated through the Clean Water Act, as amended.

National Register of Historic Places (NRHP): A list of districts, sites, buildings, structures, and objects of prehistoric or historic local, state, or national significance maintained by the Secretary of the Interior. The list is expanded as authorized by Section 2(b) of the Historic Sites Act of 1935 (16 U.S.C. 462) and Section 101(a)(1)(A) of the National Historic Preservation Act of 1966, as amended.

Native American: For purposes of this document, a Native American is defined as a tribe, people, or culture that is indigenous to the United States. Also referred to as American Indians.

Net primary productivity: The net creation of organic matter by green plants.

Neutron: An elementary atomic particle that has no charge and a mass that is approximately the same as that of a proton. Neutrons are found in all atoms except the lightest isotopes of hydrogen.

Neutron activation analysis: Use of neutrons for the detection and quantification of trace amounts of substances within a larger sample.

Neutron flux: The number of neutrons passing through a unit area per second.

Neutron sources: The facilities and equipment used to produce neutrons.

Nuclear criticality: A state in which a self-sustaining nuclear chain reaction is achieved.

Nuclide: A species of atom characterized by its nuclear constitution (number of protons and number of neutrons).

Off-site: As used in this draft Environmental Impact Statement, the term denotes a location, facility, or activity occurring outside the boundary of the Oak Ridge Reservation, Los Alamos National Laboratory, Argonne National Laboratory, and Brookhaven National Laboratory sites.

On-site: As used in this draft Environmental Impact Statement, the term denotes a location or activity occurring somewhere within the boundary of the Oak Ridge Reservation, Los Alamos National Laboratory, Argonne National Laboratory, and Brookhaven National Laboratory sites.

Open space: A land use category applied to areas that exist in a predominantly natural, undeveloped state.

Oral reference dose: The daily oral intake per unit body weight that would be likely to be without appreciable risk of adverse health effects during a lifetime.

Organic compounds: Carbon compounds, which are, or are similar to, compounds produced by living organisms.

Outfall: Place where liquid effluents enter the environment and are monitored.

Oxide: A compound in which an element chemically combines with oxygen.

Ozone: A molecule of oxygen in which three oxygen atoms are chemically attached to each other.

Paleozoic Era: Geologic time dating from 570 million to 245 million years ago when seed-bearing plants, amphibians, and reptiles first appeared.

Particulates: Solid particles and liquid droplets small enough to become airborne.

Perched groundwater: A body of groundwater of small lateral dimensions lying above a more extensive aquifer.

Perched aquifer: A body of groundwater separated from an underlying body of groundwater by an unsaturated zone.

Perennial: Acting or lasting throughout the year or through many years (perpetual).

Perennial stream: A stream that contains water at all times except during extreme drought.

Permeability: Ability of liquid to flow through rock, groundwater, soil, or other substances.

Person-rem: Unit of radiation dose to a given population; the sum of the individual doses received by a collection of individuals.

pH: A measure of the hydrogen ion concentration in aqueous solution. Pure water has a pH of 7, acidic solutions have a pH less then 7, and basic solutions have a pH greater than 7.

Physiographic: Pertaining to the physical features of Earth's surface, such as land forms or bodies of water.

Pleistocene Epoch: Geologic time that occurred approximately 11,000 to 2 million years ago.

Plutonium: A heavy, radioactive, metallic element with the atomic number 94. It is produced artificially in a reactor by bombardment of uranium with neutrons and is used in the production of nuclear weapons.

Polychlorinated biphenyl (PCB): Any of several compounds that are produced by replacing hydrogen atoms in biphenyl with chlorine, have various industrial applications, and are poisonous environmental pollutants that tend to accumulate in animal tissues.

Potable: Suitable for drinking.

Potentiometric water level: Surface of the groundwater table or height to which the water level would rise in a confined aquifer.

Prehistoric: Of, relating to, or existing in times antedating written history.

Proton: An elementary atomic particle with a positive charge and a mass of approximately 1 amu (atomic mass unit).

Pueblo: The communal dwelling of an American Indian village of Arizona, New Mexico, or adjacent areas consisting of contiguous, flat-roofed stone or adobe houses in groups, sometimes several stories high; an American Indian village of the southwestern United States, a member of a group of American Indian peoples of the southwestern United States.

Radiation: The particles or electromagnetic energy emitted from the nuclei of radioactive atoms. Some elements are naturally radioactive; others are induced to become radioactive by bombardment in a reactor.

Radioactive waste: Materials from nuclear operations that are radioactive or are contaminated with radioactive materials and for which there is no practical use or for which recovery is impractical.

Radioactivity: The spontaneous decay or disintegration of unstable atomic nuclei, accompanied by the emission of radiation.

Radioisotope: An isotope of an element that undergoes spontaneous decay with the release of radioactive particles.

Radionuclide: Any radioactive element.

Reactor: An apparatus in which a chain reaction in fissionable material is initiated and controlled.

Record of Decision (ROD): A document prepared in accordance with the requirements of 40 CFR 1505.2. It provides a concise public record of DOE's decision on a proposed action for which an EIS was prepared. A ROD identifies the alternatives considered in reaching the decision, the environmentally preferable alternative(s), factors balanced by DOE in making the decision, whether all practicable means to avoid or minimize environmental harm have been adopted, and if not, why they were not.

Reference concentration (RfC): The concentration of a toxic material in air that, if inhaled daily, would be likely to be without appreciable risk of adverse health effects during a lifetime.

Reference dose: The dose associated with a reference concentration.

Region of Influence (ROI): For the purpose of this document, a site-specific geographic area that includes the counties that would be potentially affected by the proposed action.

Rem (Roentgen equivalent man): The conventional unit or radiation dose equivalent. A unit of individual dose of absorbed ionizing radiation used to measure the effect on human tissue. The dosage of an ionizing radiation that will cause the same biological effect as one roentgen of X-ray or gamma ray exposure.

Remediation: The process, or a phase in the process, of rendering radioactive, hazardous, or mixed waste environmentally safe, whether through processing, entombment, or other methods.

Rift: An elongated valley formed by the depression of a block of Earth's crust between two faults or groups of faults of approximately parallel strike.

Riparian: On or around rivers and streams.

Rip-rap: A foundation or sustaining wall of stones or chunks of concrete thrown together without order usually on an embankment slope to prevent erosion.

Roentgen: A unit of exposure to ionizing X-ray or gamma radiation equal to 2.58×10^{-4} coulomb per kilogram. (A coulomb is a unit of electrical charge.) A roentgen is approximately equal to 1 rad.

Runoff: The portion of rainfall, melted snow, or irrigation water that flows across the ground surface and may eventually enter streams.

Sanitary waste: Liquid or solid (includes sludge) wastes that are not hazardous or radioactive and that are generated by industrial, commercial, mining, or agricultural operations or from community activities.

Saprolite: Disintegrated rock that lies in its original place.

Seismic: Pertaining to any earth vibration, especially an earthquake.

Seismicity: Occurrence of earthquakes in space and time.

Shield: Material used to reduce the intensity of radiation that would irradiate personnel or equipment.

Short-lived: A designation for radionuclides with relatively short half-lives.

Silt: A sedimentary material consisting of fine mineral particles intermediate in size between sand and clay.

Slope factor: External exposure slope factors are central to the estimate of lifetime attributable radiation cancer incidence risk for each year of exposure to external radiation from photon-emitting radionuclides distributed uniformly in a thick layer of soil and are expressed as risk/yr per pCi/gram of soil.

Socioeconomic: The social and economic conditions in a study area.

Solid waste: As defined under the Resource Conservation and Recovery Act, any solid, semisolid, liquid, or contained gaseous materials discarded from industrial, commercial, mining, or agricultural operations and from community

activities. Solid waste includes garbage; construction debris; commercial refuse; sludge from water supply facilities, or waste treatment plants, or air pollution control facilities; and other discarded materials. Solid waste does not include solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permits under section 402 of the Clean Water Act or source, special nuclear, or by-product material as defined by the Atomic Energy Act.

Solid waste management unit (SWMU): Any unit from which hazardous constituents may migrate, as defined by the Resource Conservation and Recovery Act. A designated area that is or is suspected to be the source of a release of hazardous material into the environment that will require investigation and/or corrective action.

Source term: The quantity of material released and parameters such as exhaust temperature that determine the downwind concentration, given a specific meteorological dispersion condition.

Stabilization: The action of making a nuclear material more stable by converting its physical or chemical form or placing it in a more stable environment.

Strata: Layers of rock, usually in a sequence.

Stratum: A single layer of rock, usually one of a sequence.

Stratigraphy: The science of rock strata or the characteristics of a particular set of rock strata.

Strontium: A soft, malleable, ductile metallic element of the alkaline-earth group.

Superconductor: A substance in which electrical resistance completely disappears, especially at very low temperatures.

Surface water: Water on Earth's surface, as distinguished from water in the ground (groundwater).

Thermal neutrons: Neutrons with a wavelength distribution peaked around 1.6 angstroms (one ten-billionth of a meter).

Threatened and endangered species: Animals, birds, fish, plants, or other living organisms in jeopardy of extinction by human-produced or natural changes in their environment. Requirements for declaring species threatened or endangered are contained in the Endangered Species Act of 1973.

Till: Unstratified glacial drift consisting of clay, sand, gravel, and boulders intermingled.

Total effective dose equivalent (TEDE): The sum of the committed effective dose equivalent for internal exposures (committed EDE) and the effective dose equivalent (EDE) for external exposures.

Traditional cultural property (TCP): A significant place or object associated with historical and cultural practices or beliefs of a living community that is rooted in that community's history and is important in maintaining the continuing cultural identity of the community.

Treatment: Any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize it, render it nonhazardous or less

hazardous, or recover it, make it safer to transport, store or dispose of, or amenable for recovery, storage, or volume reduction.

Treatment, storage, or disposal (TSD) facility: A site, regulated by the Environmental Protection Agency and the state under the Resource Conservation and Recovery Act, where a hazardous substance is treated, stored, or disposed.

Tritium: A radioisotope of the element hydrogen with two neutrons and one proton. Common symbols for the isotope are H-3 and T.

Tuff: A rock composed of the finer kinds of volcanic detritus usually fused together by heat.

Uranium: A heavy, silvery-white metallic element (atomic number 92) with many radioisotopes. ^{235}Uranium is most commonly used as a fuel for nuclear fission. Another isotope, ^{238}uranium, can be transformed into fissionable ^{239}plutonium by its capture of a neutron in a nuclear reactor.

Vadose zone: A region in a porous medium in which the pore space is not filled with water.

Volatile organic compounds (VOCs): A broad range of organic compounds, often halogenated, that vaporize at ambient or relatively low temperatures. They include compounds such as benzene, chloroform, and methyl alcohol.

Waste acceptance criteria (WAC): Requirements established by treatment, storage, and disposal facilities for the acceptance of waste into a facility.

Water table: Water under the surface of the ground occurs in two zones, an upper unsaturated zone and the deeper saturated zone. The boundary between the two zones is the water table.

Wave guides: A quadrangular tube designed for the transfer of microwaves.

Weir: A dam in a stream or river to raise the water level or divert its flow.

Wetland: Land or areas exhibiting hydric (requiring considerable moisture) soil concentrations, saturated or inundated soil during some portion of the year, and plant species tolerant of such conditions.

Wind rose: A depiction of wind speed and direction frequency for a given period of time.

X-ray: A penetrating electromagnetic radiation, which may be generated by accelerating electrons to high velocity and suddenly stopping them by collision with a target material.